

REMARKS

Claims 1 to 51 are pending. Claims 10 and 15 to 51 have been withdrawn from consideration. Consequently, claims 1 to 9 and 11 to 14 are under consideration.

Claims 1 and 12 are amended.

Claim Amendments

Claims 1 and 12 have been amended to recite that the IRM compound is attached to the macromolecular support through a linkage that includes a covalent bond or a high-affinity non-covalent interaction. Support for the amendments may be found throughout Applicants' disclosure at, for example, page 8, lines 18-23.

No new matter is introduced by these amendments.

§ 102 Rejections

Claims 1 to 9 and 11 to 14 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 4,689,338 ("Gerster").

Claims 1 and 12 are the only independent claims. Each has been amended to recite that the IRM compound is attached to the macromolecular support through a linkage that includes a covalent bond or a high-affinity non-covalent interaction. Gerster teaches only that the IRM compounds may be formulated in any pharmaceutically acceptable vehicle such as water or polyethylene glycol (col. 8, lines 21-24). The Office Action asserts, "These could be bonded to the reactive groups on the IRM molecules. Could be H bonded too."

Gerster teaches nothing more than the mixture of IRM compounds in a formulation that includes polyethylene glycol. Nothing in Gerster teaches or suggests attachment of the IRM compound to a macromolecular support through a linkage that includes a covalent bond or a high-affinity non-covalent interaction.

Each of claims 2 to 9 and 11 depends, directly or indirectly, from claim 1 and is, therefore, allowable for at least all of the reasons that claim 1 is allowable. Each of claims 13 and 14 depends, directly or indirectly, from claim 12 and, therefore, is allowable for at least all of the reasons that claim 12 is allowable.

Accordingly, Applicants submit that claims 1 to 9 and 11 to 14 are patentable under 35 USC § 102(b) over Gerster.

§ 112 Rejections

Claims 1 to 9 and 11 stand rejected under 35 USC § 112, first paragraph, as failing to enable a person skilled in the art to make and use the invention commensurate with the scope of the claims. Applicants respectfully traverse.

The Office Action states, “It is unclear how it can be covalently bonded. The location of the site of the covalent bond on a bead will be different than that on a gel.” Applicants respectfully disagree.

Applicants’ disclosure provides possible reactive sites on the IRM compound at which the IRM compound may be covalently linked to the substrate, a linking group, or a high-affinity functional group (e.g., avidin or biotin). (See, Formula I, page 32, and page 34, lines 17 and 18) The IRM reactive site selected for any one embodiment is *independent* of the particular macromolecular support material being used. Therefore, Applicants have enabled IRM reactive sites for the full scope encompassed by the claims.

The reactive sites of macromolecular support materials are known. While the reactive site of a gel may, indeed, be somewhat different than the reactive site on a bead, these differences are known, e.g., through literature provided by manufacturers of commercially available support materials. Moreover, the reaction schemes necessary to attach molecules at these reactive sites on macromolecular support materials are also known.

The Office Action also states, “Glassy and ceramic compounds are not known to easily for[m] a covalent bond with compounds.” Applicants respectfully disagree. Those skilled in the art possess significant knowledge regarding the attachment of molecules to glassy and ceramic substrates; see, e.g., U.S. Patent No. 6,582,938 (e.g., col. 9, lines 24-33) and U.S. Patent Publication No. 2002/0022721 A1 (paragraphs 0114 and 0131 through 0134) and patent documents cited therein.

Applicants have, therefore, enabled macromolecular support material reactive sites for the full scope encompassed by the claims.

The Office action asserts that Applicants’ disclosure fails to enable the site and location of a covalent bond between the IRM compound and a glassy substrate. This combines the concerns addressed above. First, as noted immediately above, the chemistry required to attach a compound—or a reactive functional group, to which the compound may be attached—to a glass substrate is known. Second, the reactive sites

on an IRM compound are described in Applicants' disclosure and are independent of the macromolecular support material being used. Applicants have, therefore, enabled the full scope encompassed by the claims.

Applicants submit that claims 1 to 9 and 11 satisfy the requirements of 35 USC § 112, first paragraph.

CONCLUSION

In view of the above, Applicants submit that claims 1 to 9 and 11 to 14 are allowable. Reconsideration of the application is requested.

Allowance of claims 1 to 9 and 11 to 14 at an early date is solicited.

Respectfully submitted,

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